

Retro-Commissioning (RCx)

FUPWG Meeting
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RCx In UESC Contracts

- ◆ Put RCx in Delivery Orders
- ◆ Clear Scope of Work
- ◆ Specify kW per Ton on Completion
- ◆ State the Current Condition of the Equipment
- ◆ State the Expected Performance in the Delivery Orders and Get the Contractor to Agree Up-Front
- ◆ Don't Hire a Contractor that has Never Done Commissioning
- ◆ Hire a Commissioning Agent
- ◆ **This Can Be Expensive**

What We Do at SCE

- ◆ We Commission Everything
- ◆ We ReCommission Everything to Some Degree
- ◆ San Bernardino Story

Up Front

- ◆ You must review and approve the construction scope, budget, and schedule including all RCx activities BEFORE work begins at site
- ◆ Use Pre-Established Guidelines (FEMP California, etc.)
- ◆ Final completion is conditional upon satisfactory performance of RCx. Do not pay retention until this is accomplished.

Points of Focus

- ◆ Initiate RCx Earlier in Project Implementation
- ◆ Make sure everyone involved knows what RCx is and what their responsibility is
- ◆ Review proposals and make sure that RCx is really part of the project
- ◆ Develop contracts with strong RCx deliverable requirements
- ◆ Distribute RCx forms on disk for use by contractors and subcontractors and get buy-in in writing
- ◆ Develop a tracking system for every project

Resources

- ◆ **California Commissioning Guide:
Existing Buildings**
- ◆ <http://www.documents.dgs.ca.gov/green/commissioningguideexisting.pdf>
- ◆ FEMP

More Data

- ◆ Commissioning, recommissioning and retrocommissioning; Energy and Water Evaluations of new and/or existing Laboratory, Industrial and Office Buildings following guidance and procedures addressed in the DOE - Federal Energy Management Program publication, "Facility Energy Management Guidelines and Criteria for Energy and Water Evaluations in Covered Facilities(42 U.S.C. 8253 Subsection (f), Use of Energy and Water Efficiency Measures in Federal Buildings)", dated 25 November 2008.



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From the EPA Website

- ◆ Greening EPA
- ◆ Commissioning
- ◆ Sustainability Champions
- ◆ The various commissioning processes ensure that facilities are built as planned and operate in the safest and most energy-efficient manner possible. With today's complex mechanical and control systems, particularly in laboratories, this is an important component of any energy conservation effort.
- ◆ Commissioning
- ◆ In new design and construction processes, commissioning begins at the beginning of the design process, to ensure the functions of the systems being designed meet the performance requirements. Commissioning during construction ensures that the equipment installed during construction is the equipment specified and is installed appropriately. Commissioning at the completion of the construction ensures the systems operate as intended in the design, and that they meet the performance requirements of the building occupant. The Office of Administration strives to thoroughly commission each new major building and construction project—laboratory or office. Commissioning efforts associated with new building construction include the Kansas City Science and Technology Center, and the new Denver Regional Office.
- ◆ New systems, too, require commissioning to monitor installation, review operations, and ensure performance. Mechanical upgrades installed as part of the energy savings performance contract (ESPC) in Ada, Oklahoma, for example, have been commissioned to determine if the system's performance meets the design intent. Commissioning also is being or will be conducted for renovations and upgrades at EPA laboratories in Manchester, Washington, Richmond, California, and the A.W. Breidenbach Research Center in Cincinnati, Ohio.
- ◆ Recommissioning
- ◆ Recommissioning is the process through which buildings are commissioned again at some time after their initial completion, occupancy, and commissioning. Recommissioning is a check to ensure that building systems are still functioning as originally planned, constructed, and delivered, and to identify where periodic operating procedure changes or drifts in control calibrations have affected building mechanical system performance in a previously commissioned building.
- ◆ Retro-Commissioning
- ◆ Closely related to recommissioning is retro-commissioning, which is commissioning of a building that has never been or was not fully commissioned at its completion. For example, one of EPA's largest laboratories, the New Main Facility in Research Triangle Park (RTP), North Carolina, was designed with many energy-efficient features in mind. The laboratory, however, has not been performing to EPA's expectations for energy use, so the Agency began a major retro-commissioning effort in 2004. Retro-commissioning was also completed on the Environmental Science Center in Fort Meade, Maryland, in March 2002, and is underway at EPA's Chapel Hill Laboratory in Chapel Hill, North Carolina, as well as the Agency's National Enforcement Investigations Center in Denver, Colorado.



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Questions

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